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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/614,329

07/08/2003

Valery Poulbot

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EXAMINER

DEB, ANJAN K

ART UNIT

PAPER NUMBER

2858

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/614,329	POULBOT ET AL.	
	Examiner	Art Unit	
	Anjan K Deb	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 15-24 is/are rejected.
- 7) ☒ Claim(s) 10-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>07/08/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 10-14 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim (10-14) depends from another multiple dependent claim 5. See MPEP § 608.01(n). Accordingly, the claims 10-14 not been further treated on the merits.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,3,4,23 rejected under 35 U.S.C. 102(b) as being anticipated by Christiansson (US 4,102,422).

Re claims 1,23 Christiansson discloses device and method (Fig. 7,8) for evaluating deformations of a structure comprising an elastomeric body (12,12a)(column 3 lines 30-33), said device comprising a dipole (conductive plates)(10,11) the dielectric of which is formed by said elastomeric body (abstract) and an electronic analyzing circuit (Fig. 14) sensitive to a variation of a capacitive characteristic of the dipole caused by said deformations of said body.

Re claim 3, Christiansson discloses dipole (conductive plates)(10,11) comprising filar electrodes 18 (wires).

Re claim 4, Christiansson discloses electrodes being substantially parallel (Fig. 7,8).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Christiansson (US 4,102,422) in view of Raymond (US 4,510,436).

Re claim 2, Christiansson discloses all of the claimed limitations as set forth above except resistivity of elastomeric body being greater than 10^{13} ohm·cm.

Raymond discloses capacitor transducer comprising elastomeric body (polymide) having resistivity greater than 10^{13} ohm·cm (column 6 lines 22-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Christiansson by adding elastomeric body (polymide) having resistivity greater than 10^{13} ohm·cm disclosed by Raymond for achieving high insulation property.

6. Claims 5,6,15, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christiansson (US 4,102,422) in view of Galasko (US 4,578,992).

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Re claims 5,6,15, 18,19 Christiansson did not expressly disclose device intended to be employed in a pneumatic tire.

Galasko discloses capacitor sensor device 14 employed in a pneumatic tire and situated in side wall of tire for detecting low pressure condition of a vehicle tire (Fig. 2).

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Christiansson by adding capacitor sensor device in a pneumatic tire disclosed by Galasko for detecting low pressure condition of a vehicle tire.

Re claim 17, Christiansson discloses electrodes being substantially parallel (Fig. 7,8).

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Christiansson (US 4,102,422) in view of in view of Galasko (US 4,578,992) and further in view of Raymond (US 4,510,436).

Re claim 20, Christiansson combined with Galesko disclosed all of the claimed limitations as set forth above except electrodes consisting of interdigitized combs.

Raymond disclosed capacitance sensor 24 comprising electrodes (28,30) consisting of interdigitized combs (column 2 lines 62-64).

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Christiansson and Galesko by electrodes consisting of interdigitized combs disclosed by Raymond for forming capacitance transducer with high sensitivity to changing tire pressure.

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8. Claims 7-9, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christiansson (US 4,102,422) in view of Galasko (US 4,578,992), and further in view of Lee (US 5,731,754)

Re claims 7-9,16 Christiansson and Galasko did not expressly disclose dipole being situated in the thickness and volume of a pneumatic tire tread.

Lee discloses capacitance type pressure sensor apparatus 10 (Fig. 1) located within a tire for sensing vehicle tire pressure within the tire. Situating pressure sensor within a tire is broadly considered as being situated in a thickness and volume of a pneumatic tire tread.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Christiansson by adding capacitance type sensor comprising a dipole disclosed by Galasko and locating the dipole within a volume of tire tread as disclosed by Lee for monitoring pressure within the tire.

9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Christiansson (US 4,102,422) in view of Galasko (US 4,578,992) and further in view of Herberl et al. (US 4,266,263).

Re claim 21, Christiansson and Galasko did not expressly disclose pneumatic tire comprising a plurality of dipoles arranged along the circumference of the sidewall and connected to one another in parallel to form a single dipole.

Herberl et al. discloses force measuring capacitor comprising a plurality of dipoles (shown in FIG. 5, wherein the electrodes 2 and 3 are subdivided into a number of smaller

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electrodes 2.1, 2.2, 2.3 and so forth). Due to this construction it is possible during separate detection of the individual pairs of electrodes, to exactly measure point-like forces acting upon the measuring surface.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Christiansson and Galasko by adding the force measuring capacitor comprising a plurality of dipoles disclosed by Herberl et al. to exactly measure point-like forces acting upon pneumatic tire measuring surface.

10. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Christiansson (US 4,102,422) in view of Elie (US 5,974,856).

Re claim 22, Christiansson did not expressly disclose device for evaluating deformations of a structure comprising elastomeric joint intended for vehicle chassis.

[MPEP 700: Intended Use: A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim].

Elie discloses evaluating deformations (displacement sensor) of a structure comprising elastomeric joint intended for vehicle chassis for rapid evaluation of chassis elastomeric devices in motor vehicles.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Christiansson by adapting the deformation (displacement) sensing device disclosed by

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Christiansson for monitoring deformation (displacement) of elastomeric joint in vehicle chassis disclosed by Elie.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

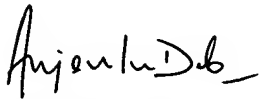
Akiyama (US 6,606,911 B2) discloses capacitance type tire pressure sensor.

Yones (US 6,543,279 B1) discloses capacitance type tire pressure sensor for measuring pressure within pneumatic tire.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Anjan K. Deb whose telephone number is 571-272-2228. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le, can be reached at (571) 272-2233.



Anjan K. Deb

Patent Examiner

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11/9/04

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